

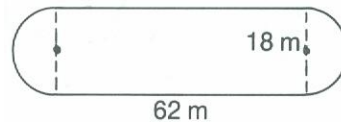
1. The base of a storage shed is shaped like a circle. The radius is 8.15 m. Find the area.

$$\begin{aligned} A &= \pi r^2 \\ &= (3.14)(8.15)^2 \\ &= 3.14(66.4225) \\ &= 208.57 \text{ m}^2 \end{aligned}$$

2. A circular pond has a diameter of 94.6 m. Find the area of its surface.

$$\begin{aligned} A &= \pi r^2 \\ &= (3.14)(47.3)^2 \\ &= 3.14(2237.29) \\ &= 7025.09 \text{ m}^2 \end{aligned}$$

3. Find the area of the rink.



Area of Circle

$$\begin{aligned} A &= \pi r^2 \\ &= (3.14)(9)^2 \\ &= 3.14(81) \\ &= 254.34 \text{ m}^2 \end{aligned}$$

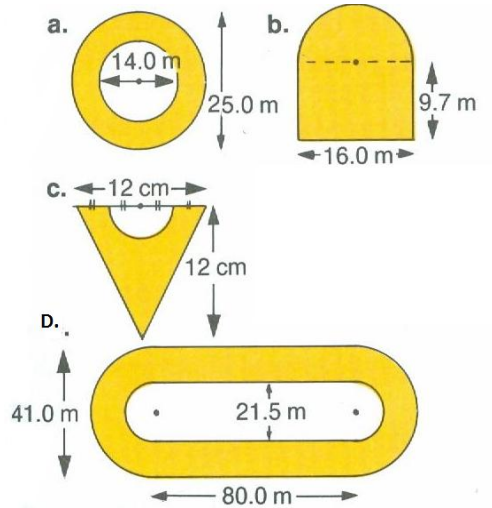
Area of Rec. = lw

$$\begin{aligned} &= (62)(18) \\ &= 1116 \text{ m}^2 \end{aligned}$$

Total Area = Circle + Rec.

$$\begin{aligned} &= 254.34 + 1116 \\ &= 1370.34 \text{ m}^2 \end{aligned}$$

4. Find the area of the shaded region.



<p>Area of Big Circle</p> $A = \pi r^2$ $= (3.14)(12.5)^2$ $= 3.14(156.25)$ $= 490.625 \text{ m}^2$ <p>Area of Small Circle</p> $A = \pi r^2$ $= (3.14)(7)^2$ $= 3.14(49)$ $= 153.86 \text{ m}^2$ <p>Shaded Area = Big – Small</p> $= 490.625 - 153.86$ $= 336.765 \text{ m}^2$	<p>Area of Circle</p> $A = \pi r^2$ $= (3.14)(8)^2$ $= 3.14(64)$ $= 200.96 \text{ m}^2$ <p>Half of circle = 100.48 m²</p> <p>Area of Rectangle:</p> $A = lw$ $A = (16)(9.7)$ $A = 155.2 \text{ m}^2$ <p>Total Area = Half of Circle + Rectangle</p> $= 100.48 + 155.2$ $= 255.68 \text{ m}^2$
<p>Area of Circle</p> $A = \pi r^2$ $= (3.14)(3)^2$ $= 3.14(9)$ $= 28.26 \text{ m}^2$ <p>Half of circle = 14.13 cm²</p> <p>Area of Triangle:</p> $A = \frac{bh}{2}$	<p>Area of Big Circle</p> $A = \pi r^2$ $= (3.14)(4.1)^2$ $= 3.14(16.81)$ $= 52.7834 \text{ m}^2$ <p>Half of circle = 26.3917 m²</p> <p>Area of Small Circle:</p> $A = \pi r^2$ $= (3.14)(3)^2$ $= 3.14(9)$ $= 28.26 \text{ m}^2$

$A = \frac{(12)(12)}{2}$ $A = 72 \text{ cm}^2$ Shaded Area = Triangle – Half Circle $= 72 - 14.13$ $= 57.87 \text{ cm}^2$			
Area of Big Circle	Area of Small Circle	Area of Big Rec	Area of Small Rec.
$A = \pi r^2$ $= (3.14)(20.5)^2$ $= 3.14(420.25)$ $= 1319.585 \text{ m}^2$	$A = \pi r^2$ $= (3.14)(10.75)^2$ $= 3.14(115.5625)$ $= 362.86625 \text{ m}^2$	$A = lw$ $= (41)(80)$ $= 3280 \text{ m}^2$	$A = lw$ $= (21.5)(80)$ $= 1720 \text{ m}^2$
Total Area = Big Circle – Small Circle + Big Rec. – Small Rec. $= 1319.585 - 362.86625 + 3280 - 1720$ $= 2516.72 \text{ m}^2$			

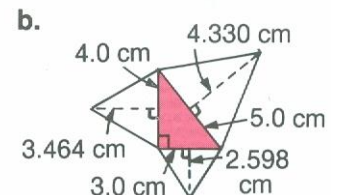
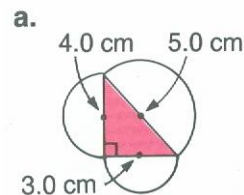
5. Last week, Alex had his goat tethered to a 6.0 m chain. This week, he increased the length of the chain to 10.0 m. What is the increase in the goat's eating area?

Area of Big Circle	Area of Small Circle
$A = \pi r^2$ $A = (3.14)(10)^2$ $A = 3.14(100)$ $A = 314 \text{ m}^2$	$A = \pi r^2$ $= (3.14)(6)^2$ $= 3.14(36)$ $= 113.04 \text{ m}^2$
Increase in Area = Big Circle – Small Circle $= 314 - 113.04$ $= 200.96 \text{ m}^2$	

6. A rectangle piece of cardboard is rolled to form a cardboard tube 25.0 cm long and 7.0 cm in diameter. What is the area of the piece of cardboard?

Area of Big Circle	Area of Small Circle
$A = \pi r^2$	$A = \pi r^2$
$A = (3.14)(10)^2$	$= (3.14)(6)^2$
$A = 3.14(100)$	$= 3.14(36)$
$A = 314 \text{ m}^2$	$= 113.04 \text{ m}^2$
Increase in Area = Big Circle – Small Circle	
$= 314 - 113.04$	
$= 200.96 \text{ m}^2$	

7. Compare the areas of the figures on the sides of the right-angled triangle. What do you notice?



<p>Area of Small Circle</p> $A = \pi r^2$ $= (3.14)(3)^2$ $= 3.14(9)$ $= 28.26 \text{ cm}^2$ <p>Area of Medium Circle</p> $A = \pi r^2$ $= (3.14)(4)^2$ $= 3.14(16)$ $= 50.24 \text{ cm}^2$ <p>Area of Large Circle</p> $A = \pi r^2$ $= (3.14)(5)^2$ $= 3.14(25)$ $= 78.5 \text{ cm}^2$ <p>Small + Medium = Large</p> $28.26 + 50.24 = 78.5$ $78.5 = 78.5$	<p>Area of Small Triangle</p> $A = \frac{bh}{2}$ $= \frac{(3)(2.598)}{2}$ $A = 3.897 \text{ cm}^2$ <p>Area of Medium Triangle</p> $A = \frac{bh}{2}$ $= \frac{(4)(3.464)}{2}$ $A = 6.928 \text{ cm}^2$ <p>Area of Large Triangle</p> $A = \frac{bh}{2}$ $= \frac{(5)(4.330)}{2}$ $A = 10.825 \text{ cm}^2$ <p>Small + Medium = Large</p> $3.897 + 6.928 = 10.825$ $10.825 = 10.825$
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